

REMARKS

Claims 1-26 and 29-32 are pending in this application. Claim 1 is the sole independent claim. By this Amendment, claims 1 and 9 are amended and new claims 30-32 are added. No new matter is added.

Interview

Applicants appreciate the courtesies extended to Applicants' representative by Examiner Rosenwald and SPE Barton during the interview conducted November 9, 2011. During the interview the subject matter of the present application was reviewed and then compared with the disclosures of Bentsen and of Girault. It was pointed out that the polymeric substrate of Bentsen and the PVC substrate Girault are not metal substrates. It was agreed that were the claims amended to clarify this distinction such that the metal traces of the references could not be interpreted as a metal substrate, such amendments would likely result in an additional having to be conducted.

Rejections Under 35 U.S.C. §103

Claims 1, 12, 17 and 29 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 5,635,054 to Girault et al. ("Girault") in view of U.S. Patent Publication 2002/0195345 to Bentsen et al. ("Bentsen"). This rejection is respectfully traversed.

In rejecting the claims it is alleged that the substrate 1 of Girault corresponds to the claimed metal substrate. However, such an interpretation of Girault is inconsistent with the clear disclosure of the reference. For example, Girault discloses that the substrate 1 is a sheet of polyvinylchloride (PVC). Thus, contrary to the

allegation in the Office Action, Girault does not disclose a metal substrate. Applicant respectfully reminds the Examiner that statements and disclosures in a reference cannot be taken out of context and given meanings they would not have had to one skilled in the art having no knowledge of applicant's invention or to anyone else who can read the specification with understanding.¹ In other words, interpreting the PVC substrate 1 of Girault as a metal substrate is inconsistent with the clear disclosure in the reference of the substrate and gives a meaning to the substrate 1 that would not be understood by one reading the specification.

Although the PTO must give claims their broadest reasonable interpretation, this interpretation must be consistent with the one that those skilled in the art would reach.² Accordingly, the broadest reasonable interpretation "should not be so broad that it conflicts with the meaning given to identical terms in other patents from analogous art."³

In fact, there is no metal substrate whatsoever disclosed in Girault. Rather, Girault merely discloses a PVC substrate 1, having a conducting material on a surface of the substrate. The conducting material 3 is a thixotropic paste that includes carbon or metallic particles applied in a thickness sufficient to fill holes 4 in a non-conducting sheet 2. Because Girault does not disclose a metal substrate, but instead discloses only a PVC substrate having a conducting paste thereon, the reference fails

¹ See *In re Wright*, 866 F.2d 422, 426, 9 USPQ2d 1649 (Fed. Cir. 1989).

² See *In re Morris*, 127 F.3d 1048, 1054, 44 USPQ2d 1023, 1027 (Fed.Cir.1997) ("It is axiomatic that, in proceedings before the PTO, claims in an application are to be given their broadest reasonable interpretation consistent with the specification, ... and that claim language should be read in light of the specification as it would be interpreted by one of ordinary skill in the art.") (emphasis added); see also M.P.E.P. § 2111.01 ("[T]he words of a claim ... must be read as they would be interpreted by those of ordinary skill in the art."). Prior art references may be "indicative of what all those skilled in the art generally believe a certain term means ... [and] can often help to demonstrate how a disputed term is used by those skilled in the art." *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1584, 39 USPQ2d 1573, 1578-79 (Fed.Cir.1996).

³ Cf. *Morris*, 127 F.3d at 1056, 44 USPQ2d at 1029 (approving the board's definition of claim terms consistent with their definitions in CCPA cases), (*In re Cortright*, 165 F.3d 1353, 1358, 49 USPQ2d 1464, (Fed. Cir. 1999)).

to disclose or suggest the features as alleged. As such, the combination of references cannot render the claims obvious and therefore, the rejection should be withdrawn.

Moreover, Bentsen does not cure the deficiencies of Girault in that Bentsen discloses a polymeric substrate 12 and not a metal substrate as claimed. According to Bentsen, the substrate is a flexible polymeric substrate 32 that may be a polyimide, a poly(methylmethacrylate), polycarbonates, polyolefins, polyamides, polyvinyl chloride, and polytetrafluoroethylene, polyesters, or epoxies. Other ingredients which may be incorporated into the substrate 32 which may include plasticizers, toughening agents, pigments, fillers, stabilizers, antioxidants, flow agents, bodying agents, leveling agents, colorants, binders, fungicides, bactericides, surfactants, glass and ceramic beads, and reinforcing materials such as woven and non-woven webs of organic and inorganic fiber, provided that none of the added ingredients interfere with the chemical or biochemical processes for which the APEX array is intended. Thus, there is no disclosure in Bentsen of a metal substrate as alleged in the Office Action.

Although Bentsen discloses metal traces 20 on the polymeric substrate, the metal traces are not described by Bentsen as being a metal substrate. Rather, the traces are deposited on the substrate by known techniques. As such, the traces cannot be interpreted as a substrate as such an interpretation is inconsistent with the clear disclosure of Bentsen, as well as with the commonly known and used meaning of the term.⁴ Because Bentsen does not overcome the deficiencies of Girault, the combination of references fails to render the claims obvious.

Further, even assuming arguendo that the traces could be properly interpreted as a metal substrate, one of skill in the art would not modify Girault to have a metal substrate at least because Girault teaches away from the use of a metal substrate due

⁴ See *In re Wright*, 866 F.2d 422, 426, 9 USPQ2d 1649 (Fed. Cir. 1989).

to adhesion problems between the insulating layer and a metal substrate. Because of these difficulties, Girault specifically does not use a metal substrate. Because there is a teaching away from the combination of references, there is no rational basis for modifying Girault as proposed.⁵

Moreover, claim 1 is amended to clarify the distinctions between the applied art and the claimed subject matter. Because the combination fails to disclose or suggest each of the claim features and because there is no rational basis for combining the claims, withdrawal of the rejection is requested.

Claims 1-21 and 29 are rejected under 35 U.S.C. §103(a) as being unpatentable over Bentsen in view of Girault. This rejection is respectfully traversed.

Claims 1-21 and 29 are allowable for the same reasons discussed above as same combination of references is being cited and applied to claims 1-21 and 29 that were applied against claims 1, 12, 17 and 29. As such, withdrawal of the rejection is requested.

Claims 22-26 are rejected under 35 U.S.C. §103(a) as being unpatentable over Bentsen in view of Girault as applied to claims 1-21 above, and further in view of U.S. Patent Publication 2005/0173246 to Hodges et al. ("Hodges"). This rejection is respectfully traversed.

Claims 22-26 are allowable for their dependency on independent claim 1 for the reasons discussed above as well as for the additional features recited therein. As such, withdrawal of the rejection is requested.

⁵ "Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006), cited with approval in *KSR*, 550 US at 418.

New Claims

None of the applied references, whether considered alone or in combination, disclose or suggest that the first surface of the metal substrate in the open spaces of the isolator layer is exposed, as in new claim 30, or that the metal substrate is exposed on each of the first surface and the second surface at the sensor surface and the contactable areas, as in new claim 31, or that the metal areas are substantially of the same size and shape, as in new claim 32.

CONCLUSION

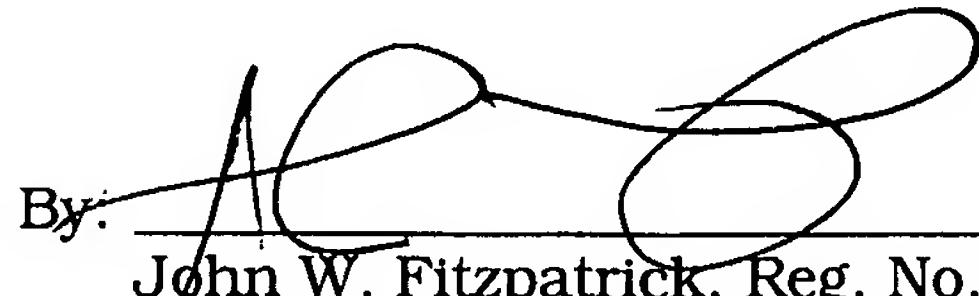
In view of the above amendments and remarks, reconsideration of the objections and rejections and allowance of each of the pending claims in connection with the present application is earnestly solicited.

Should there be any outstanding matters that need to be resolved in the present application the Examiner is respectfully requested to contact the undersigned at the telephone number below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

HARNESS, DICKEY, & PIERCE, P.L.C.

By: 

John W. Fitzpatrick, Reg. No. 41,018
P.O. Box 8910
Reston, Virginia 20195
(703) 668-8000

DJD/JWF:eaf